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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,071	08/31/2000	Shane Ching-Feng Hu	DB000858-000	4375

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EXAMINER

CZEKAJ, DAVID J

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,071

Applicant(s)

HU, SHANE CHING-FENG

Examiner

Dave Czekaj

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-78 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Arguments

On pages 12 and 13, the applicant argues that Agarwal and Coombs do not teach that using pseudo frames reduces the amount of digital data the must be processed. While the applicant's points are understood, the examiner cannot agree. The examiner used Agarwal and Coombs as teachings to show that "pseudo frames" is a term well known in the art. See for example Coombs, column 4, lines 61-65. There, Coombs describes making what Coombs calls "candidate frames" (or pseudo frames) by alternatively taking lines from two video fields and placing or interleaving them together. Therefore, these teachings are only relied upon to show this term is well known.

On page 14, the applicant argues that the examiner has failed to make a prima facie case of obviousness. While the applicant's points are understood, the examiner cannot agree. Clearly one of ordinary skill would recognize the processing of fields or frames is simply a matter of preference, meaning that a frame (or pseudo frame) is a collection of even and odd fields. Rao's only difference is that fields are being processed instead of frames. The examiner considers this to be an obvious variation, and supplied motivation to combine the teachings of the references. Therefore, a prima facie case has been made.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. (6041142), (hereinafter referred to as "Rao"), in view of Coombs et al. (5565998), (hereinafter referred to as "Coombs"), and Agarwal (5850264).

Regarding claims 1, 27, and 53, Rao discloses a method for processing data types in a video stream. This method comprises "calculating correlation values for each pseudo frame", "determining scene changes" (Rao: column 25, lines 65-67, wherein the correlation value is the field activity), and "analyzing correlation values and scene changes to identify the source of each frame" (Note Rao, figure 4B. Processor 490 and 480 use both correlations from 401 and scene change from register 470). However, this method lacks the forming of pseudo frames from fields in adjacent frames as claimed. Coombs and Agarwal teach that pseudo frames are produced by using even and odd fields (Coombs: note figure 1 where frame 2 AO/BE and frame 3 BO/CE are sources of pseudo frames). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the method described by Rao and add the pseudo frames taught by Coombs and Agarwal in order to obtain an apparatus that efficiently identifies data types in a video stream, whatever the format it comes in.

Regarding claims 14, 40, and 66, Rao discloses a method for processing data types in a video stream. This method comprises "calculating correlation

values for each pseudo frame", "determining scene changes based on said correlation values" (Rao: column 25, lines 65-67, wherein the correlation value is the field activity), and "identifying frames and repeated fields based on correlation values and scene changes" (Note Rao, figure 4B. Processor 490 and 480 use both correlations from 401 and scene change from register 470). This method also comprises "identifying the source of each frame based on said identification of frames and repeated fields" (Rao: column 18, lines 38-45, wherein the identification is done by examining the status registers). However, this method lacks the forming of pseudo frames from fields in adjacent frames as claimed. Coombs and Agarwal teach that pseudo frames are produced by using even and odd fields (Coombs: note figure 1 where frame 2 AO/BE and frame 3 BO/CE are sources of pseudo frames). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the method described by Rao and add the pseudo frames taught by Coombs and Agarwal in order to obtain an apparatus that efficiently identifies data types in a video stream, whatever the format it comes in.

Regarding claims 2-3, 15-16, 28-29, 41-42, 54-55, and 67-68, Agarwal discloses that "pseudo frames include interleaving each field with a field from a previous frame" or "with a previous field" (Coombs: figures 3A and 3B, column 3, lines 15-34).

Regarding claims 4, 17, 30, 43, 56, and 69, although not shown, calculating the correlation value could include the process of calculation the sum

of absolute differences (Official Notice). Doing so would have been obvious to obtain a more precise correlation value.

Regarding claims 5-6, 18-19, 31-32, 44-45, 57-58, and 70-71, Coombs discloses that "determining scene changes includes comparing a correlation value for one pseudo frame to a correlation value for an adjacent pseudo frame" (Coombs: column 7, lines 46-51, wherein the adjacent and previous frames are the surrounding 31 pairs).

Regarding claims 7, 33, and 59, Rao discloses "selecting a set of correlation values based on whether the frame represents a new scene and comparing said selected set of correlation values to one another to identify the source of each frame" (Rao: column 17, lines 50-67, column 18, lines 38-45, wherein the new scene is indicated by the scene cut. The comparing is done by recording the characteristics of the fields in the status registers. The status registers are then examined, or compared, to determine the source).

Regarding claims 8, 34, and 60, Rao discloses "transitioning a state machine through a series of states" (Rao: figure 4B).

Regarding claims 9, 22, 35, 48, 61, and 74, Agarwal discloses that "source information includes one of an interlaced field" (Agarwal: column 3, lines 19-22, wherein the interlaced field is the interleaved frame).

Regarding claims 10, 23, 36, 49, 62, and 75, Agarwal discloses "buffering in a delay buffer a plurality of frames" (Agarwal: figure 4, items 402 and 407).

Regarding claims 11-13, 24-26, 37-39, 50-52, 63-65, and 76-78, the output of Rao is equivalent as shown.

Regarding claims 20, 46, and 72, Rao discloses "selecting a set of correlation values based on whether the frame represents a new scene (Rao: column 17, lines 50-67, column 18, lines 38-45, wherein the new scene is indicated by the scene cut, and "comparing the selected set of correlation values to one another to identify frames and repeated fields" (Note Rao, figure 4B. Processor 490 and 480 use both correlations from 401).

Regarding claims 21, 47, and 73, Rao discloses "transitioning a state machine through a series of states based on frames and repeated fields" (Rao: figure 4B).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (703) 305-3418. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Chris Kelley". The signature is stylized with a large "C" and "K".

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600